



# Compact Cylinder: Standard Type Double Acting, Double Rod Series CQ2W

ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

## How to Order

**Without auto switch**  
CQ2W B [ ] 20 [ ] 30 D [ ]

**With auto switch**  
CDQ2W B [ ] 20 [ ] 30 D [ ] J79W S

**Built-in magnet**

**Mounting style**

<b>B</b>	Through-hole (Standard)	<b>L</b>	Foot style
<b>A</b>	Both ends tapped style	<b>F</b>	Flange style

\* Mounting brackets are shipped together, (but not assembled).

**Type**

<b>Nil</b>	Pneumatic
<b>H</b>	Air-hydro <sup>Note)</sup>

Note) Bore sizes available for air-hydro type are ø20 to ø63

**Bore size**

<b>12</b>	12 mm	<b>40</b>	40 mm
<b>16</b>	16 mm	<b>50</b>	50 mm
<b>20</b>	20 mm	<b>63</b>	63 mm
<b>25</b>	25 mm	<b>80</b>	80 mm
<b>32</b>	32 mm	<b>100</b>	100 mm

**Piping**

<b>Nil</b>	Screw-in piping
<b>F</b>	Built-in One-touch fittings <sup>Note)</sup>

Note) Available bore sizes w/ One-touch fittings are ø32 to ø63. Besides, it is not possible to use for air-hydro type.

**Auto switch**

<b>Nil</b>	Without auto switch (Built-in magnet)	<b>Nil</b>	2 pcs.
<b>S</b>		<b>S</b>	1 pc.
<b>n</b>		<b>n</b>	"n" pcs.

\* For the applicable auto switch model, refer to the table below.  
\* Auto switches are shipped together, (but not assembled). (Except D-P5DWL)

**Body option**

<b>Nil</b>	Standard (Rod end female thread)
<b>C</b>	With rubber bumper <sup>Note)</sup>
<b>M</b>	Rod end male thread

\* Combination of body options ("CM") is available.  
Note) Air-hydro type with rubber bumper is not available.

**Action**

<b>D</b>	Double acting
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**Cylinder stroke (mm)**  
Refer to "Standard Stroke" on page 7-6-26.

- CUJ
- CU
- CQS
- CQM
- CQ2**
- RQ
- MU
- D-
- X
- 20-
- Data

### Applicable Auto Switch/Refer to page 7-9-1 for further information on auto switches.

Type	Special function	Electrical entry	Indicator/light	Wiring (Output)	Load voltage		Rail mounting		Direct mounting		Lead wire length (m) *				Pre-wire connector	Applicable load			
					DC	AC	ø12 to ø100		ø32 to ø100		0.5 (Nil)	3 (L)	5 (Z)	None (N)					
							Perpendicular	In-line	Perpendicular	In-line									
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5V	—	A76H	A96V	A96	●	●	—	—	—	IC circuit			
											—	—	200 V	A72			A72H	—	—
				2-wire	24 V	12 V	100 V	—	—	A93V	A93	●	●	—			—	—	—
								—	—	A73C	—	—	—	●			●		
Diagnostic indication (2-color indication)	Grommet	—	—	A79W	—	—	—	●	●	—	—	—	—	—	—				
Solid state switch	—	Grommet	Yes	3-wire (NPN)	—	5V, 12V	—	F7NV	F79	M9NV	M9N	●	●	○	—	○	IC circuit		
				3-wire (PNP)				F7PV	F7P	M9PV	M9P	●	●	○	—	○			
		Connector		2-wire	24 V	12 V	—	F7BV	J79	M9BV	M9B	●	●	○	—	○	—		
				3-wire (NPN)				F7NWV	F79W	F9NWV	F9NW	●	●	○	—	○			
		Grommet		3-wire (PNP)	—	F7PW	F9PWV	F9PW	●	●	○	—	○	IC circuit					
				2-wire	—	F7BWV	J79W	F9BWV	F9BW	●	●	○	—		○				
		Water resistant (2-color indication)		Grommet	2-wire	24 V	12 V	—	—	F7BA	—	F9BA	—	●	○	—	○	—	
									—	F7BAV	—	—	—	●	○	—	—		
		With diagnostic output (2-color indication)		Grommet	4-wire (NPN)	5V, 12V	—	—	F79F	—	—	—	●	●	○	—	○	IC circuit	
								—	P5DW	—	—	—	—	●	●	—	○		—
Magnetic field resistant (2-color indication)	Grommet	2-wire	—	—	—	—	—	—	—	—	●	●	—	○	—				
						—	—	—	—	—	—	—	—	—		—			

\* Lead wire length symbols: 0.5 m..... Nil (Example) A73C  
 3 m..... L (Example) A73CL  
 5 m..... Z (Example) A73CZ  
 None..... N (Example) A73CN

\* Solid state switches marked with "○" are produced upon receipt of order.

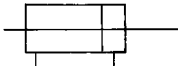
- D-P5DWL type is available from ø40 up to ø100 only.
- There are other applicable auto switches other than the listed above. For details, refer to page 7-6-23.
- For details about auto switches with pre-wire connector, refer to page 7-9-36.

# Series CQ2W



## JIS Symbol

Double acting,  
double rod



## ⚠ Precautions

**Be sure to read before handling.  
For Safety Instructions and  
Actuator Precautions, refer to  
pages 7-13-3 to 7-13-6.**

## Snap Ring Installation/Removal

### ⚠ Caution

1. For installation and removal, use an appropriate pair of pliers (tool for installing a type C snap ring).

- Even if a proper plier (tool for installing type C snap ring) is used, it is likely to inflict damage to a human body or peripheral equipment, as a snap ring may be flown out of the tip of a plier (tool for installing a type C snap ring). Be much careful with the popping of a snap ring. Besides, be certain that a snap ring is placed firmly into the groove of rod cover before supplying air at the time of installment.

## Mounting

1. When removing a load, be sure to secure the wrench flats of the piston rod on the load side.
2. If this is done without securing the piston rod on the load side, be aware that the coupled (screwed-in) portion of the piston rod could become loosened.

## Type

Bore size (mm)		12	16	20	25	32	40	50	63	80	100	
Pneumatic	Mounting	Through-hole (Standard)	●	●	●	●	●	●	●	●	●	
		Both ends tapped style	●	●	●	●	●	●	●	●	●	
	Built-in magnet		●	●	●	●	●	●	●	●	●	
	Piping	Screw-in type	M5 x 0.8	M5 x 0.8	M5 x 0.8	M5 x 0.8	M5 x 0.8 <sup>(1)</sup> Rc 1/8	Rc 1/8	Rc 1/4	Rc 1/4	Rc 3/8	Rc 3/8
		Built-in One-touch fittings	—	—	—	—	ø6/4 <sup>(2)</sup>	ø6/4	ø8/6	ø8/6	—	—
	Rod end male thread		●	●	●	●	●	●	●	●	●	●
With rubber bumper		●	●	●	●	●	●	●	●	●	●	
Air-hydro	Mounting	Through-hole (Standard)	—	—	●	●	●	●	●	●	●	
		Both ends tapped style	—	—	●	●	●	●	●	●	●	
	Built-in magnet		—	—	●	●	●	●	●	●	●	
	Piping	Screw-in type	—	—	M5 x 0.8	M5 x 0.8	M5 x 0.8 <sup>(1)</sup> Rc 1/8	Rc 1/8	Rc 1/4	Rc 1/4	Rc 3/8	Rc 3/8
Rod end male thread		—	—	●	●	●	●	●	●	●	●	



Note 1) In the case of without auto switch, M5 x 0.8 is used for 5 stroke only.

Note 2) In the case of built-in fitting, the 5 mm stroke with ø32 bore is the same external dimensions as 10 mm stroke.

## Specifications

Type	Pneumatic (Non-lube)	Air-hydro
Fluid	Air	Turbine oil <sup>(3)</sup>
Proof pressure	1.5 MPa	
Maximum operating pressure	1.0 MPa	
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)	Air-hydro 5 to 60°C
Rubber bumper	None	—
Rod end thread	Female thread	
Rod end thread tolerance	JIS Class 2	
Stroke length tolerance	+1.0 0	
Mounting	Through-hole	
Piston speed	50 to 500 mm/s	5 to 50 mm/s



Note 3) For caution on handling, refer to page 7-13-6.

## Standard Stroke

### Pneumatic (Non-lube)

Bore size (mm)	Standard stroke
12, 16	5, 10, 15, 20, 25, 30
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 50, 75, 100
50, 63 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

### Air-hydro

Bore size (mm)	Standard stroke
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
50, 63 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

## Manufacture of Intermediate Stroke

Description	Spacer is installed in the standard stroke body.	Exclusive body (-XB10)
Part no.	"How to Order" for the standard model no. on page 7-6-25.	Suffix "-XB10" to the end of standard model no. on page 7-6-25.
Description	Dealing with the stroke by the 5 mm interval is available by installing spacer with standard stroke cylinder.	Dealing with the stroke by the 1 mm interval by using an exclusive body with the specified stroke.
Stroke range	Bore size	Bore size
	Stroke range	Stroke range
	—	—
Example	Part no.: CQ2WB50-65D CQ2WB50-75D with 10 mm spacer inside. B dimension is 125.5 mm.	Part no.: CQ2WB50-65D-XB10 Makes 65 stroke tube. B dimension is 115.5 mm.

• Air-hydro type is excluded.

• In the case of special body type for ø32 to ø100 (-XB10), standard value for longitudinal dimensions will be changed.

Subtract from 75 and 100 stroke dimensions and figure it out.

# Compact Cylinder: Standard Type Double Acting, Double Rod Series CQ2W



## Made to Order Specifications (For details, refer to page 7-10-1.)

Symbol	Specifications
-XA□	Change of rod end shape
-XB6	Heat resistant cylinder (150°C) w/o auto switch only
-XB7	Cold resistant cylinder w/o auto switch only
-XB9	Low speed cylinder (10 to 50 mm/s)
-XB10	Intermediate stroke (Using exclusive body)
-XB13	Low speed cylinder (5 to 50 mm/s)
-XC6	Piston rod and rod end nut made of stainless steel
-XC18	NPT finish piping port
-XC35	With coil scraper, ø32 to 100 only
-XC36	With boss in rod side
-X293	Same full length dimension as Series CQ1W
-X144	Change of port location
-X235	Change of piston rod end of double rod cylinder
-X271	Fluoro rubber for seals

## Mounting Bracket Part No.

Bore size (mm)	Foot <sup>(4)</sup>	Flange
12	CQ-L012	CQ-F012
16	CQ-L016	CQ-F016
20	CQ-L020	CQ-F020
25	CQ-L025	CQ-F025
32	CQ-L032	CQ-F032
40	CQ-L040	CQ-F040
50	CQ-L050	CQ-F050
63	CQ-L063	CQ-F063
80	CQ-L080	CQ-F080
100	CQ-L100	CQ-F100

Note 4) Order two foot brackets per cylinder.  
 Note 5) Parts belonging to each bracket are as follows.  
 Foot or Flange style: Body mounting bolt

## Minimum Operating Pressure

(MPa)

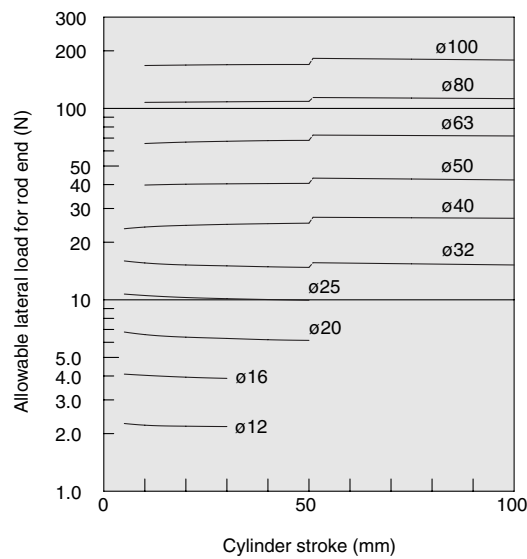
Bore size (mm)	12	16	20	25	32	40	50	63	80	100
Pneumatic (Non-lube)	0.07	0.07	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Air-hydro	—	—	0.18	0.18	0.18	0.10	0.10	0.10	0.10	0.10

## Allowable Kinetic Energy

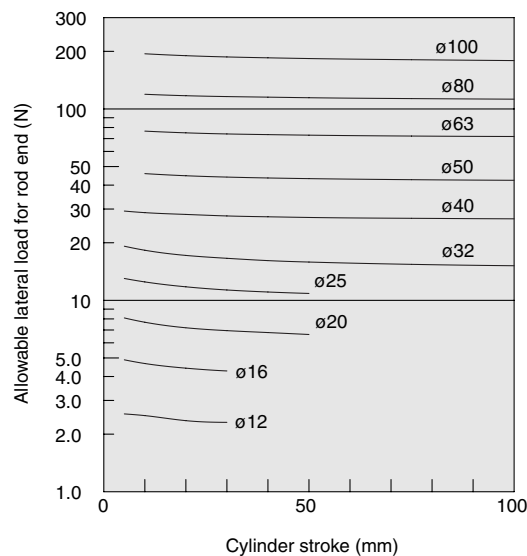
(J)

Bore size (mm)	12	16	20	25	32	40	50	63	80	100
Standard	0.022	0.038	0.055	0.09	0.15	0.26	0.46	0.77	1.36	2.27
With rubber bumper	0.043	0.075	0.11	0.18	0.29	0.52	0.91	1.54	2.71	4.54

## Allowable Lateral Load at Rod End



Allowable lateral load for rod end (Double rod, without switch)



Allowable lateral load for rod end (Double rod, with switch)

CUJ

CU

CQS

CQM

CQ2

RQ

MU

D-

-X

20-

Data

# Series CQ2W

## Theoretical Output (N)

Bore size (mm)	Operating pressure (MPa)		
	0.3	0.5	0.7
12	25	42	59
16	45	75	106
20	71	118	165
25	113	189	264
32	181	302	422
40	317	528	739
50	495	825	1150
63	841	1400	1960
80	1360	2270	3170
100	2140	3570	5000

## Weight (g)

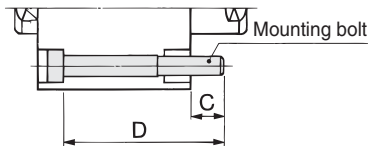
Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
12	42	49	56	63	70	77	—	—	—	—	—	—
16	59	68	77	86	95	104	—	—	—	—	—	—
20	89	104	119	134	149	164	179	194	209	224	—	—
25	119	136	153	170	187	204	221	238	255	272	—	—
32	192	220	244	268	292	316	340	364	388	412	532	652
40	292	323	354	385	416	447	478	509	540	571	726	881
50	—	528	573	618	663	708	753	798	843	888	1113	1338
63	—	676	714	753	792	831	870	909	948	987	1182	1377
80	—	1241	1325	1409	1493	1577	1661	1745	1829	1913	2333	2753
100	—	2106	2225	2344	2463	2582	2701	2820	2939	3058	3653	4248

## Mounting Bolt for CQ2WB

Mounting method: Mounting bolt for through-hole mounting style of CQ2WB is available as an option.

Ordering: Add the word "Bolt" in front of the bolts to be used.

Example) Bolt M3 x 35ℓ 4 pcs.



## Additional Weight (g)

Bore size (mm)	12	16	20	25	32	40	50	63	80	100	
Both ends tapped style	2	2	6	6	6	6	6	19	45	45	
Rod end male thread	Male thread	3	6	12	24	52	54	106	106	240	350
	Nut	2	4	8	16	34	34	64	64	98	232
With rubber bumper	0	0	-2	-2	-3	-7	-12	-20	-34	-57	
Built-in One-touch fittings	—	—	—	—	12	12	21	21	—	—	
Foot style (Including mounting bolt)	57	71	170	195	159	171	267	349	735	1117	
Flange style (Including bolt)	57	69	139	161	180	214	373	559	1056	1365	

Calculation: (Example) CQ2WF32-20DCM

- Cylinder weight: CQ2WB32-20D ..... 268 g
- Option weight: Both ends tapped style ..... 6 g
- Rod end male thread ..... 86 g
- Rubber bumper ..... -3 g
- Flange style ..... 180 g
- Total ..... 537 g

Model	C	D	Bolt
CQ2WB12-5D	8.3	35	M3 x 35ℓ
-10D		40	x 40ℓ
-15D		45	x 45ℓ
-20D		50	x 50ℓ
-25D		55	x 55ℓ
-30D		60	x 60ℓ
CQ2WB16-5D	7.5	35	M3 x 35ℓ
-10D		40	x 40ℓ
-15D		45	x 45ℓ
-20D		50	x 50ℓ
-25D		55	x 55ℓ
-30D		60	x 60ℓ
CQ2WB20-5D	6	30	x 30ℓ
-10D		35	x 35ℓ
-15D		40	x 40ℓ
-20D		45	x 45ℓ
-25D		50	x 50ℓ
-30D		55	x 55ℓ
-35D		60	x 60ℓ
-40D		65	x 65ℓ
-45D		70	x 70ℓ
-50D		75	x 75ℓ
CQ2WB25-5D	8	35	M5 x 35ℓ
-10D		40	x 40ℓ
-15D		45	x 45ℓ
-20D		50	x 50ℓ
-25D		55	x 55ℓ
-30D		60	x 60ℓ
-35D		65	x 65ℓ
-40D		70	x 70ℓ
-45D		75	x 75ℓ
-50D		80	x 80ℓ

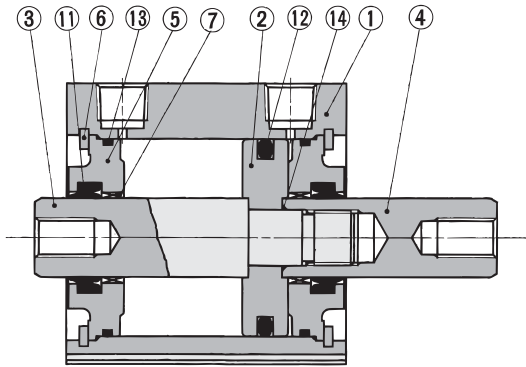
Model	C	D	Bolt
CQ2WB32-5D	6.5	35	M5 x 35ℓ
-10D		40	x 40ℓ
-15D		45	x 45ℓ
-20D		50	x 50ℓ
-25D		55	x 55ℓ
-30D		60	x 60ℓ
-35D		65	x 65ℓ
-40D		70	x 70ℓ
-45D		75	x 75ℓ
-50D		80	x 80ℓ
CQ2WB40-5D	7	45	M5 x 45ℓ
-10D		50	x 50ℓ
-15D		55	x 55ℓ
-20D		60	x 60ℓ
-25D		65	x 65ℓ
-30D		70	x 70ℓ
-35D		75	x 75ℓ
-40D		80	x 80ℓ
-45D		85	x 85ℓ
-50D		90	x 90ℓ
CQ2WB50-10D	12.5	55	M6 x 55ℓ
-15D		60	x 60ℓ
-20D		65	x 65ℓ
-25D		70	x 70ℓ
-30D		75	x 75ℓ
-35D		80	x 80ℓ
-40D		85	x 85ℓ
-45D		90	x 90ℓ
-50D		95	x 95ℓ
-75D		130	x 130ℓ
-100D	155	x 155ℓ	

Model	C	D	Bolt
CQ2WB63-10D	13.5	55	M8 x 55ℓ
-15D		60	x 60ℓ
-20D		65	x 65ℓ
-25D		70	x 70ℓ
-30D		75	x 75ℓ
-35D		80	x 80ℓ
-40D		85	x 85ℓ
-45D		90	x 90ℓ
-50D		95	x 95ℓ
-75D		130	x 130ℓ
CQ2WB80-10D	12.5	60	M10 x 60ℓ
-15D		65	x 65ℓ
-20D		70	x 70ℓ
-25D		75	x 75ℓ
-30D		80	x 80ℓ
-35D		85	x 85ℓ
-40D		90	x 90ℓ
-45D		95	x 95ℓ
-50D		100	x 100ℓ
-100D		160	x 160ℓ
CQ2WB100-10D	13	70	M10 x 70ℓ
-15D		75	x 75ℓ
-20D		80	x 80ℓ
-25D		85	x 85ℓ
-30D		90	x 90ℓ
-35D		95	x 95ℓ
-40D		100	x 100ℓ
-45D		105	x 105ℓ
-50D		110	x 110ℓ
-75D		145	x 145ℓ
-100D	170	x 170ℓ	

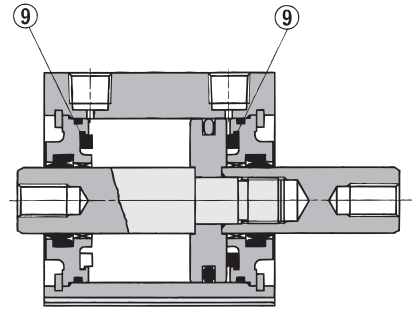
# Compact Cylinder: Standard Type Double Acting, Double Rod Series CQ2W

## Construction

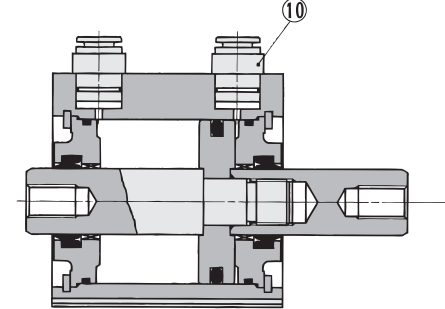
Basic style



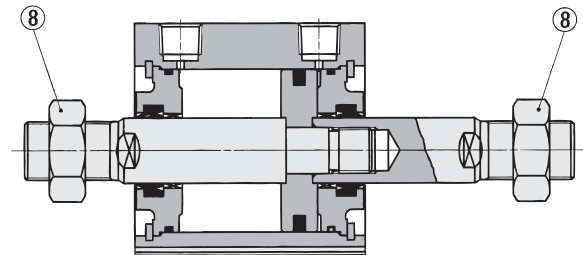
With rubber bumper



Built-in One-touch fittings



Rod end male thread



### Component Parts

No.	Description	Material	Note
①	Cylinder tube	Aluminum alloy	Hard anodized
②	Piston	Aluminum alloy	Chromated
③	Piston rod A	Stainless steel	ø12 to ø25
		Carbon steel	ø32 to ø100, Hard chrome plated
④	Piston rod B	Stainless steel	ø12 to ø25
		Carbon steel	ø32 to ø100, Hard chrome plated
⑤	Collar	Aluminum alloy	ø12 to ø40, Anodized
		Aluminum alloy casted	ø50 to ø100, Chromated, painted
⑥	Snap ring	Carbon tool steel	Phosphate coated
⑦	Bushing	Lead bronze casting	For ø50 or larger only
⑧	Rod end nut	Carbon steel	Nickel plated
⑨	Bumper	Urethane	
⑩	One-touch fittings	—	ø32 to ø63
⑪*	Rod seal	NBR	
⑫*	Piston seal	NBR	
⑬*	Tube gasket	NBR	
⑭	Piston gasket	NBR	

### Replacement Part: Seal Kit (Pneumatic)

Bore size (mm)	Kit no.	Contents
12	CQ2WB12-PS	Set of nos. above ⑪, ⑫, ⑬
16	CQ2WB16-PS	
20	CQ2WB20-PS	
25	CQ2WB25-PS	
32	CQ2WB32-PS	
40	CQ2WB40-PS	
50	CQ2WB50-PS	
63	CQ2WB63-PS	
80	CQ2WB80-PS	
100	CQ2WB100-PS	

### Replacement Part: Seal Kit (Air-hydro)

Bore size (mm)	Kit no.	Contents
20	CQ2WBH20-PS	Set of nos. above ⑪, ⑫, ⑬
25	CQ2WBH25-PS	
32	CQ2WBH32-PS	
40	CQ2WBH40-PS	
50	CQ2WBH50-PS	
63	CQ2WBH63-PS	
80	CQ2WBH80-PS	
100	CQ2WBH100-PS	

\* Seal kit includes ⑪, ⑫, ⑬. Order the seal kit, based on each bore size.

### Copper-free (For CRT manufacturing process)

20 — CQ2WB **Bore size** — **Stroke** D(C)(M)  
 • Copper-free • ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

To prevent the influence of copper ions or halogen ions during CRT manufacturing processes, copper and fluorine materials are not used in the component parts.

### Specifications

Action	Double acting, Double rod
Bore size (mm)	12, 16, 20, 25, 32, 40, 50, 63, 80, 100
Proof pressure	1.5 MPa
Maximum operating pressure	1.0 MPa
Rubber bumper	None
Piping	Screw-in piping
Piston speed	50 to 500 mm/s
Mounting	Through-hole
Auto switch	Mountable

CUJ

CU

CQS

CQM

**CQ2**

RQ

MU

D-

-X

20-

Data

# Standard: Double Acting, Double Rod Series CDQ2W With Auto Switch



\* Refer to page 7-9-1 for further information on auto switches.

## How to Order

For "How to Order" with auto switch, refer to page 7-6-25.

## Minimum Stroke for Auto Switch Mounting

(mm)

No. of auto switches mounted	D-F7□V D-J79C D-M9□V	D-A7□ D-A80 D-A73C D-A80C D-A9□V	D-F7□WV D-F9□WV D-F7BAVL	D-A7□H D-A80H D-F7□ D-J79 D-M9□ D-F9□W	D-A79W	D-F7□W D-J79W D-F7BAL D-F79F D-F9BAL	D-P5DWL	D-A9□
1 pc.	5	5	10	15	15	20	30	10
2 pcs.	5	10	15	15	20	20	30	10

## Weight

(g)

Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
12	55	63	71	79	87	95	—	—	—	—	—	—
16	88	99	110	121	132	143	—	—	—	—	—	—
20	135	152	169	186	203	220	237	254	271	288	—	—
25	182	199	216	233	250	267	284	301	318	335	—	—
32	247	271	295	319	343	367	391	415	439	463	487	511
40	370	401	432	463	494	525	556	587	618	649	680	711
50	—	647	692	737	782	827	872	917	962	1007	1052	1097
63	—	833	872	911	950	989	1028	1067	1106	1145	1184	1223
80	—	1500	1584	1668	1752	1836	1920	2004	2088	2172	2256	2340
100	—	2501	2620	2739	2858	2977	3096	3215	3334	3453	3572	3691

## Additional Weight

(g)

	Bore size (mm)									
	12	16	20	25	32	40	50	63	80	100
Both ends tapped style	1	1	3	3	6	6	6	19	45	45
Rod end male thread	Male thread	3	6	12	24	52	54	106	106	240
	Nut	2	4	8	16	34	34	64	64	98
With rubber bumper	0	0	-2	-2	-3	-7	-12	-19	-34	-54
Built-in One-touch fittings	—	—	—	—	12	12	21	21	—	—
Foot style (Including mounting bolt)	52	65	153	177	159	171	267	349	735	1117
Flange style (Including mounting bolt)	54	67	131	153	180	214	373	559	1056	1365

Calculation:

(Example) CDQ2WF32-20DCM

• Cylinder weight: CDQ2WB32-20D ... 319 g

• Option weight: Both ends tapped style.....6 g

Rod end male thread ..... 86 g

Rubber bumper ..... 3 g

Rod side flange style ..... 180 g

588 g

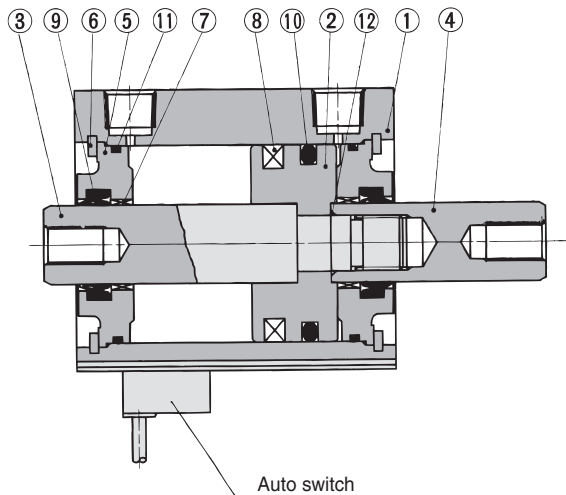
If auto switches are to be installed, the weight that corresponds to the number of auto switches and mounting brackets to be used must be added.

## Auto Switch Mounting Bracket Weight

Mounting bracket part no.	Applicable bore (mm)	Weight (g)
BQ-1	12 to 25	1.5
BQ-2	32 to 100	1.5

\* For the auto switch weight, refer to page 7-9-1.

## Construction



## Component Parts

No.	Description	Material	Note
①	Cylinder tube	Aluminum alloy	Hard anodized
②	Piston	Aluminum alloy	Chromated
③	Piston rod A	Stainless steel	ø12 to ø25
		Carbon steel	ø32 to ø100, Hard chrome plated
④	Piston rod B	Stainless steel	ø12 to ø25
		Carbon steel	ø32 to ø100, Hard chrome plated
⑤	Collar	Aluminum alloy	ø12 to ø40, Anodized
		Aluminum alloy casted	ø50 to ø100, Chromated, painted
⑥	Snap ring	Carbon tool steel	Phosphate coated
⑦	Bushing	Lead-bronze casted	For ø50 or larger only
⑧	Magnet	—	—
⑨*	Rod seal	NBR	
⑩*	Piston seal	NBR	
⑪*	Tube gasket	NBR	
⑫	Piston gasket	NBR	

## Replacement Parts: Seal Kit (Pneumatic)

Bore size (mm)	Kit no.	Contents
12	CQ2WB12-PS	Set of nos. above ⑨, ⑩, ⑪
16	CQ2WB16-PS	
20	CQ2WB20-PS	
25	CQ2WB25-PS	
32	CQ2WB32-PS	
40	CQ2WB40-PS	
50	CQ2WB50-PS	
63	CQ2WB63-PS	
80	CQ2WB80-PS	
100	CQ2WB100-PS	

\* Seal kits includes ⑨, ⑩, ⑪. Order the seal kit, based on each bore size.

## Replacement Parts: Seal Kit (Air-hydro)

Bore size (mm)	Kit no.	Contents
20	CQ2WBH20-PS	Set of nos. above ⑨, ⑩, ⑪
25	CQ2WBH25-PS	
32	CQ2WBH32-PS	
40	CQ2WBH40-PS	
50	CQ2WBH50-PS	
63	CQ2WBH63-PS	
80	CQ2WBH80-PS	
100	CQ2WBH100-PS	

\* Seal kits includes ⑨, ⑩, ⑪. Order the seal kit, based on each bore size.

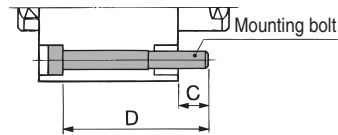
# Compact Cylinder with Auto Switch: Standard Type Double Acting, Double Rod Series **CDQ2W**

## Mounting Bolt for CDQ2 with Auto Switch

Mounting method: Mounting bolt for through-hole mounting style of CDQ2WB is available as an option.

Ordering: Add the word "Bolt" in front of the bolts to be used.

Example) Bolt M3 x 40ℓ 4 pcs.



Model	C	D	Bolt	
CDQ2WB12-5DC	6.1	40	M3 x 40ℓ	
-10DC		45	x 45ℓ	
-15DC		50	x 50ℓ	
-20DC		55	x 55ℓ	
-25DC		60	x 60ℓ	
-30DC		65	x 65ℓ	
CDQ2WB16-5D	7.5	45	M3 x 45ℓ	
-10D		50	x 50ℓ	
-15D		55	x 55ℓ	
-20D		60	x 60ℓ	
-25D		65	x 65ℓ	
-30D		70	x 70ℓ	
CDQ2WB20-5D	9	45	M5 x 45ℓ	
-10D		50	x 50ℓ	
-15D		55	x 55ℓ	
-20D		60	x 60ℓ	
-25D		65	x 65ℓ	
-30D		70	x 70ℓ	
-35D		75	x 75ℓ	
-40D		80	x 80ℓ	
-45D		85	x 85ℓ	
-50D		90	x 90ℓ	
CDQ2WB25-5D		8	45	M5 x 45ℓ
-10D			50	x 50ℓ
-15D	55		x 55ℓ	
-20D	60		x 60ℓ	
-25D	65		x 65ℓ	
-30D	70		x 70ℓ	
-35D	75		x 75ℓ	
-40D	80		x 80ℓ	
-45D	85		x 85ℓ	
-50D	90		x 90ℓ	

Model	C	D	Bolt	
CDQ2WB32-5D	6.5	45	M5 x 45ℓ	
-10D		50	x 50ℓ	
-15D		55	x 55ℓ	
-20D		60	x 60ℓ	
-25D		65	x 65ℓ	
-30D		70	x 70ℓ	
-35D		75	x 75ℓ	
-40D		80	x 80ℓ	
-45D		85	x 85ℓ	
-50D		90	x 90ℓ	
CDQ2WB40-5D	7	55	M5 x 55ℓ	
-10D		60	x 60ℓ	
-15D		65	x 65ℓ	
-20D		70	x 70ℓ	
-25D		75	x 75ℓ	
-30D		80	x 80ℓ	
-35D		85	x 85ℓ	
-40D		90	x 90ℓ	
-45D		95	x 95ℓ	
-50D		100	x 100ℓ	
CDQ2WB50-10D	12.5	125	M6 x 125ℓ	
-100D		150	x 150ℓ	
CDQ2WB60-10D		12.5	65	M6 x 65ℓ
-15D			70	x 70ℓ
-20D			75	x 75ℓ
-25D			80	x 80ℓ
-30D			85	x 85ℓ
-35D			90	x 90ℓ
-40D			95	x 95ℓ
-45D			100	x 100ℓ
-50D	105		x 105ℓ	
-75D	130		x 130ℓ	
-100D	155	x 155ℓ		

Model	C	D	Bolt
CDQ2WB63-10D	13.5	65	M8 x 65ℓ
-15D		70	x 70ℓ
-20D		75	x 75ℓ
-25D		80	x 80ℓ
-30D		85	x 85ℓ
-35D		90	x 90ℓ
-40D		95	x 95ℓ
-45D		100	x 100ℓ
-50D		105	x 105ℓ
-75D		130	x 130ℓ
CDQ2WB80-10D	12.5	70	M10 x 70ℓ
-15D		75	x 75ℓ
-20D		80	x 80ℓ
-25D		85	x 85ℓ
-30D		90	x 90ℓ
-35D		95	x 95ℓ
-40D		100	x 100ℓ
-45D		105	x 105ℓ
-50D		110	x 110ℓ
-75D		135	x 135ℓ
CDQ2WB100-10D	13	80	M10 x 80ℓ
-15D		85	x 85ℓ
-20D		90	x 90ℓ
-25D		95	x 95ℓ
-30D		100	x 100ℓ
-35D		105	x 105ℓ
-40D		110	x 110ℓ
-45D		115	x 115ℓ
-50D		120	x 120ℓ
-75D		145	x 145ℓ
-100D	170	x 170ℓ	

CUJ

CU

CQS

CQM

CQ2

RQ

MU

D-

-X

20-

Data

# Series CDQ2W

## Proper Auto Switch Mounting Position (Detection at stroke end) and Its Mounting Height

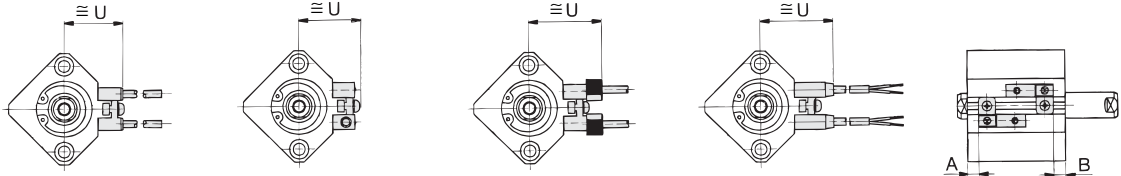
D-A7□  
D-A80

D-A7□H, D-A80H  
D-F7□, D-J79  
D-F7□W, D-J79W  
D-F79F, D-F7NTL  
D-F7BAL

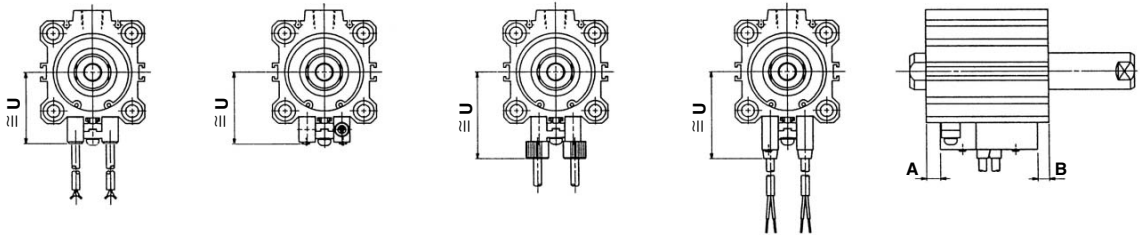
D-A73C  
D-A80C  
D-J79C

D-A79W  
D-F7□WV  
D-F7□V  
D-F7BAVL

ø12 to ø25



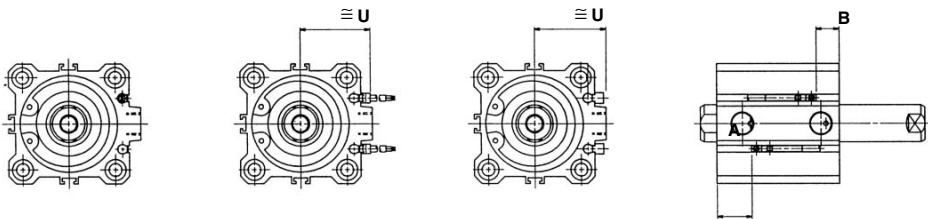
ø32 to ø100



D-A9□  
D-M9□, D-F9□W

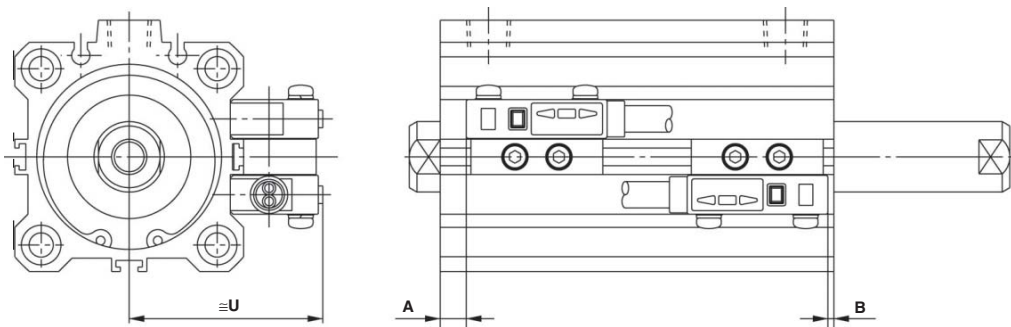
D-A9□V  
D-M9□V  
D-F9□WV

D-F9BAL



ø40 to ø100

D-P5DWL





# Compact Cylinder with Auto Switch: Standard Type Double Acting, Double Rod Series **CDQ2W**

## Proper Auto Switch Mounting Position

Bore size (mm)	D-A7□/A80		D-F7□H/A80H D-A73C/A80C D-F7□/J79/J79W D-F7□V/J79C D-F7□W/F7□WV D-F7BAL/F7BAVL D-F79F		D-A79W		D-A9□ D-A9□V		D-M9□ D-M9□V D-F9□W D-F9□WV		D-F9BAL		D-P5DWL	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
12	4.5	10	5	10.5	2	7.5	—	—	—	—	—	—	—	—
16	7.5	10.5	8	11	5	8	—	—	—	—	—	—	—	—
20	7.5	13	8	13.5	5	10.5	—	—	—	—	—	—	—	—
25	7.5	13	8	13.5	5	10.5	—	—	—	—	—	—	—	—
32	9	13.5	9.5	14	6.5	11	8	12.5	12	16.5	11	15.5	—	—
40	13	19	13.5	19.5	10.5	16.5	12	18	16	22	15	21	9	15
50	11	21.5	11.5	22	8.5	19	10	20.5	14	24.5	13	23.5	7	17.5
63	13.5	20.5	14	21	11	18	12.5	19.5	16.5	23.5	15.5	22.5	9.5	16.5
80	17.5	29	18	29.5	15	26.5	16.5	28	20.5	32	19.5	31	13.5	25
100	21.0	31.5	—	32	18.5	29	20	30.5	24	34.5	23	33.5	17	27.5

## Auto Switch Mounting Height

Bore size (mm)	D-A7□/A80	D-A7□H D-A80H D-F7□ D-J79 D-F7□W	D-J79W D-F9BAL D-F79F D-F7NTL	D-A73C D-A80C	D-F7□V D-F7□WV D-F7BAVL	D-J79C	D-A79W	D-A9□V	D-M9□V D-F9□WV	D-F9BAL	D-P5DWL
	U	U	U	U	U	U	U	U	U	U	U
12	19.5	20.5	26.5	23	26	22	—	—	—	—	—
16	22.5	23.5	29.5	26	29	25	—	—	—	—	—
20	24.5	25.5	31.5	28	31	27	—	—	—	—	—
25	27.5	28.5	34.5	31	34	30	—	—	—	—	—
32	31.5	32.5	38.5	35	38	34	27	29	26.5	—	—
40	35	36	42	38.5	41.5	37.5	30.5	32.5	30	44	—
50	41	42	48	44.5	47.5	43.5	36.5	38.5	36	50	—
63	47.5	48.5	54.5	51	54	50	40	42	39.5	56.5	—
80	57.5	58.5	64.5	61	64	60	50	52	49.5	66.5	—
100	67.5	68.5	74.5	71	74	70	60	62	59.5	76.5	—

CUJ

CU

CQS

CQM

CQ2

RQ

MU

D-

-X

20-

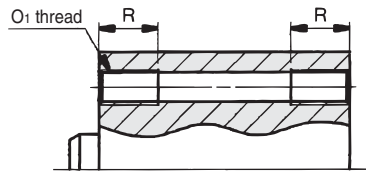
Data

# Series CQ2W

## Dimensions: $\phi 12$ to $\phi 25$ /Without Auto Switch

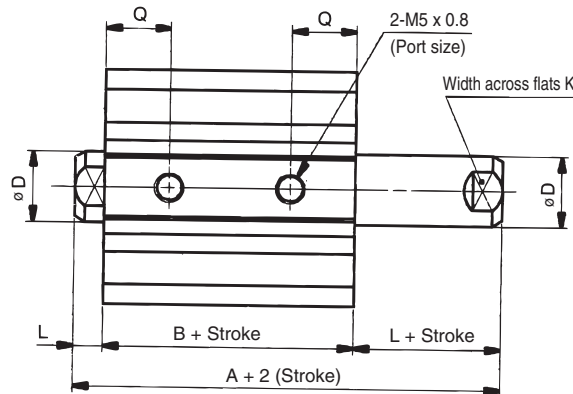
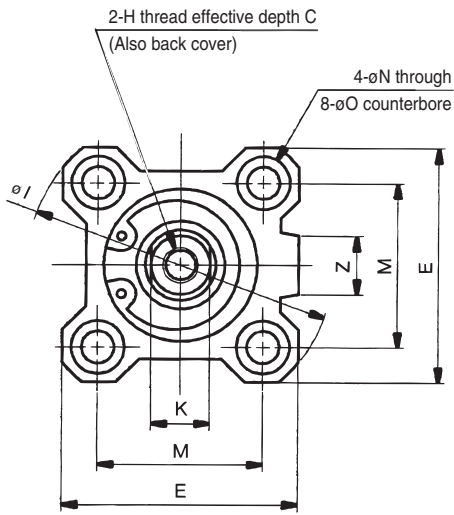
### Basic style (Through-hole): CQ2WB

#### Both ends tapped style: CQ2WA



#### Both Ends Tapped Style

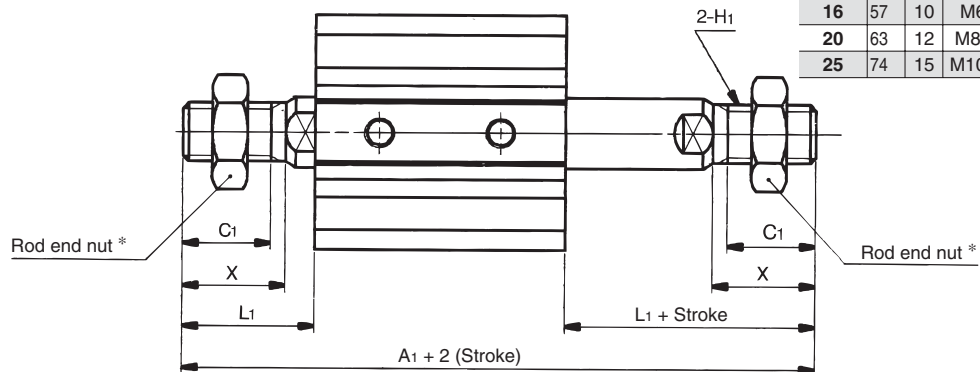
Bore size (mm)	O <sub>1</sub>	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10



#### Rod End Male Thread

Bore size (mm)	A <sub>1</sub>	C <sub>1</sub>	H <sub>1</sub>	L <sub>1</sub>	X
12	53.2	9	M5 x 0.8	14	10.5
16	57	10	M6 x 1.0	15.5	12
20	63	12	M8 x 1.25	18.5	14
25	74	15	M10 x 1.25	22.5	17.5

#### Rod end male thread



### Basic Style

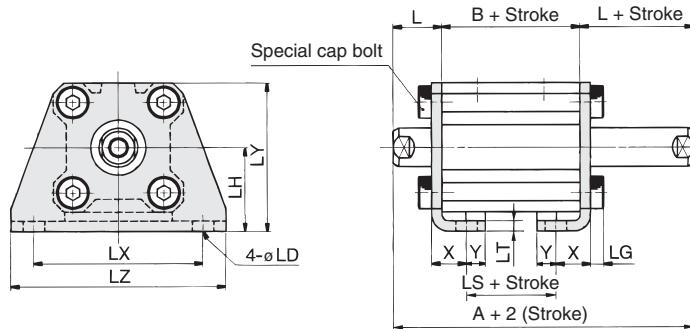
Bore size (mm)	Stroke range (mm)	A	B	C	D	E	H	I	K	L	M	N	O	Q	Z
12	5 to 30	32.2	25.2	6	6	25	M3 x 0.5	32	5	3.5	15.5	3.5	6.5 depth 3.5	10	—
16	5 to 30	33	26	8	8	29	M4 x 0.7	38	6	3.5	20	3.5	6.5 depth 3.5	10	10
20	5 to 50	35	26	7	10	36	M5 x 0.8	47	8	4.5	25.5	5.5	9 depth 7	9.5	10
25	5 to 50	39	29	12	12	40	M6 x 1.0	52	10	5	28	5.5	9 depth 7	11	10

Note) External dimensions with rubber bumper are same as standard type as shown above.

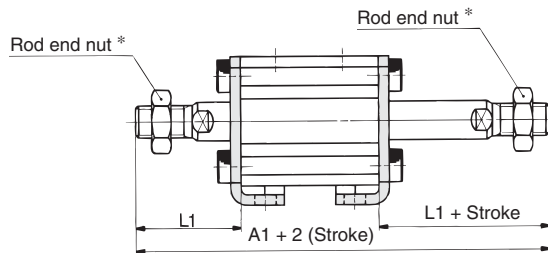
\* For details about the rod end nut and accessory brackets, refer to page 7-6-20.

# Compact Cylinder: Standard Type Double Acting, Double Rod Series CQ2W

## Foot style: CQ2WL



Rod end male thread



Rod End Male Thread

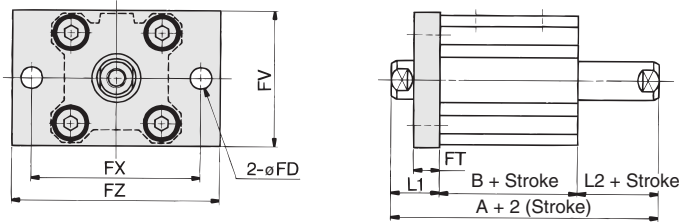
Bore size (mm)	A1	L1
12	73.2	24
16	77	25.5
20	83	28.5
25	94	32.5

## Foot Style

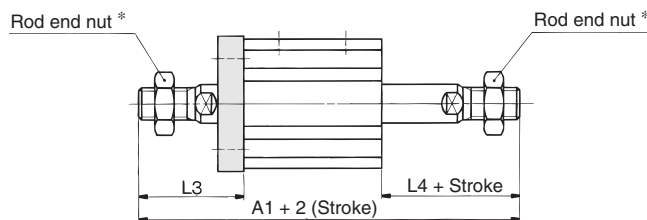
Bore size (mm)	Stroke range (mm)	A	B	L	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
12	5 to 30	52.2	25.2	13.5	4.5	2.8	17	13.2	2	34	29.5	44	8	4.5
16	5 to 30	53	26	13.5	4.5	2.8	19	14	2	38	33.5	48	8	5
20	5 to 50	55	26	14.5	6.6	4	24	14	3.2	48	42	62	9.2	5.8
25	5 to 50	59	29	15	6.6	4	26	14	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel

## Flange style: CQ2WF



Rod end male thread



Rod End Male Thread

Bore size (mm)	A1	L3	L4
12	63.2	24	14
16	67	25.5	15.5
20	73	28.5	18.5
25	84	32.5	22.5

## Flange Style

Bore size (mm)	Stroke range (mm)	A	B	FD	FT	FV	FX	FZ	L1	L2
12	5 to 30	42.2	25.2	4.5	5.5	25	45	55	13.5	3.5
16	5 to 30	43	26	4.5	5.5	30	45	55	13.5	3.5
20	5 to 50	45	26	6.6	8	39	48	60	14.5	4.5
25	5 to 50	49	29	6.6	8	42	52	64	15	5

\* For details about the rod end nut and accessory brackets, refer to page 7-6-20.

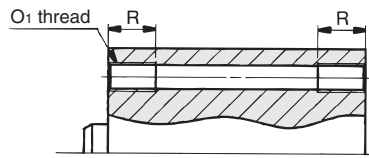
Flange bracket material: Carbon steel

# Series CQ2W

## Dimensions: $\phi 12$ to $\phi 25$ /With Auto Switch

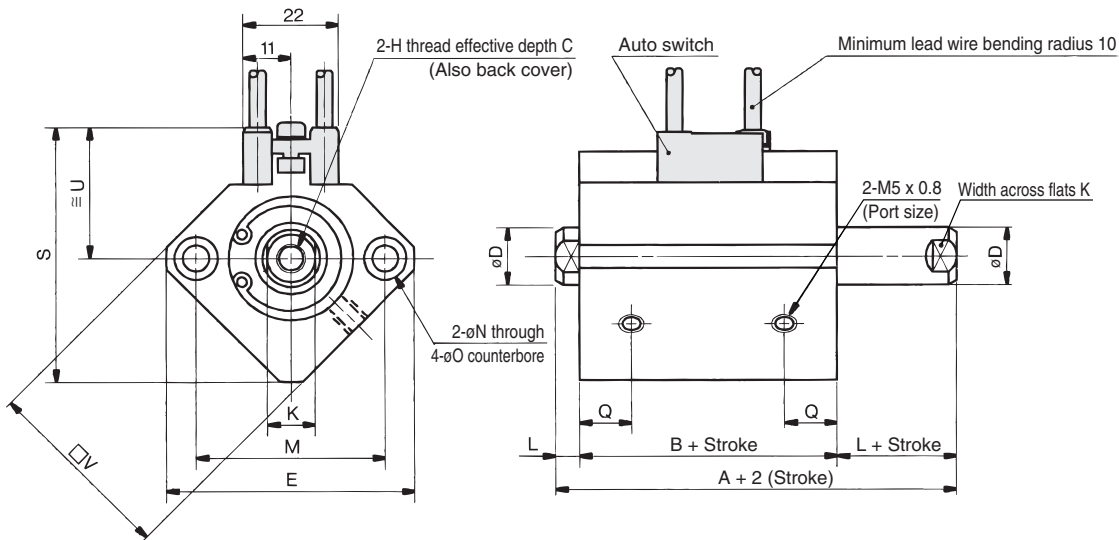
### Basic style (Through-hole): CDQ2WB

#### Both ends tapped style: CDQ2WA

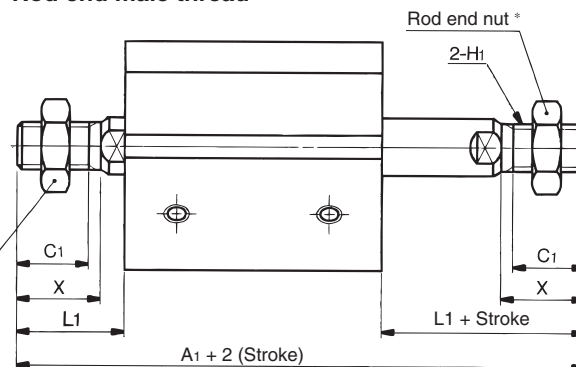


#### Both Ends Tapped Style

Bore size (mm)	O1	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10



#### Rod end male thread



#### Rod End Male Thread

Bore size (mm)	A1	C1	H1	L1	X
12	60.4	9	M5 x 0.8	14	10.5
16	67	10	M6 x 1.0	15.5	12
20	75	12	M8 x 1.25	18.5	14
25	84	15	M10 x 1.25	22.5	17.5

Auto switch shown above is D-A73 and D-A80. For auto switch mounting position and its mounting height, refer to page 7-6-22.

#### Basic Style

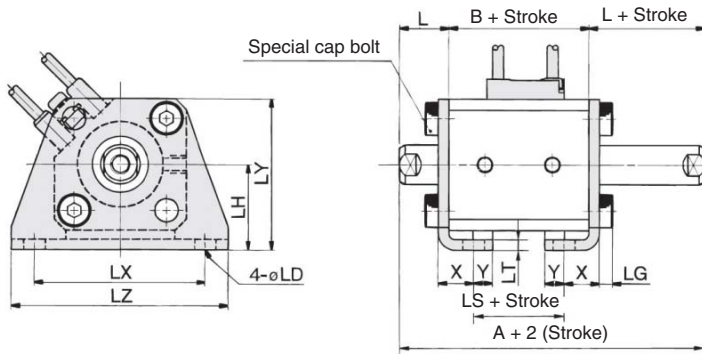
Bore size (mm)	Stroke range (mm)	A	B	C	D	E	H	K	L	M	N	O	Q	S	U	V
12	5 to 30	39.4	32.4	6	6	32	M3 x 0.5	5	3.5	22	3.5	6.5 depth 3.5	10.5	35.5	19.5	25
16	5 to 30	43	36	8	8	38	M4 x 0.7	6	3.5	28	3.5	6.5 depth 3.5	10	41.5	22.5	29
20	5 to 50	47	38	7	10	47	M5 x 0.8	8	4.5	36	5.5	9 depth 7	10.5	48	24.5	36
25	5 to 50	49	39	12	12	52	M6 x 1.0	10	5	40	5.5	9 depth 7	11	53.5	27.5	40

Note) External dimensions with rubber bumper are same as standard type as shown above.

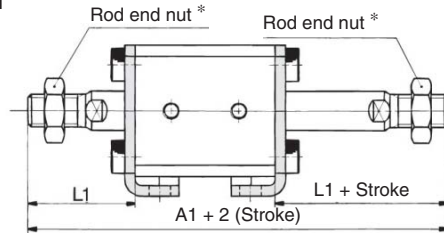
\* For details about the rod end nut and accessory brackets, refer to page 7-6-20.

# Compact Cylinder: Standard Type Double Acting, Double Rod Series CQ2W

## Foot style: CDQ2WL



### Rod end male thread



### Rod End Male Thread

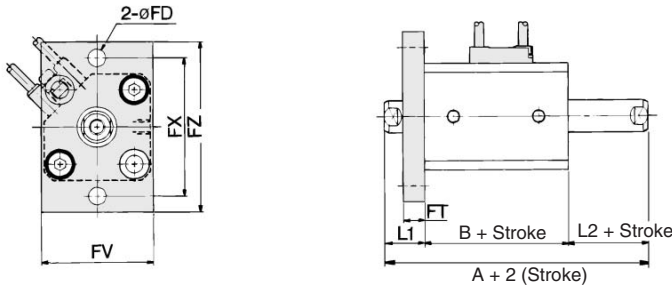
Bore size (mm)	A1	L1
12	80.4	24
16	87	25.5
20	95	28.5
25	104	32.5

### Foot Style

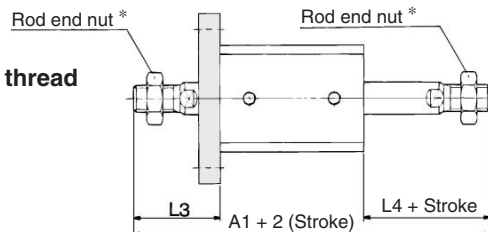
Bore size (mm)	Stroke range (mm)	A	B	L	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
12	5 to 30	59.4	32.4	13.5	4.5	2.8	17	20.4	2	34	29.5	44	8	4.5
16	5 to 30	63	36	13.5	4.5	2.8	19	24	2	38	33.5	48	8	5
20	5 to 50	67	38	14.5	6.6	4	24	26	3.2	48	42	62	9.2	5.8
25	5 to 50	69	39	15	6.6	4	26	24	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel

## Flange style: CDQ2WF



### Rod end male thread



### Rod End Male Thread

Bore size (mm)	A1	L3	L4
12	70.4	24	14
16	77	25.5	15.5
20	85	28.5	18.5
25	94	32.5	22.5

### Flange Style

Bore size (mm)	Stroke range (mm)	A	B	FD	FT	FV	FX	FZ	L1	L2
12	5 to 30	49.4	32.4	4.5	5.5	25	45	55	13.5	3.5
16	5 to 30	53	36	4.5	5.5	30	45	55	13.5	3.5
20	5 to 50	57	38	6.6	8	39	48	60	14.5	4.5
25	5 to 50	59	39	6.6	8	42	52	64	15	5

\* For details about the rod end nut and accessory brackets, refer to page 7-6-20.

Flange bracket material: Carbon steel

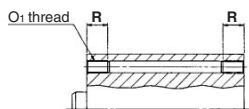
# Series CQ2W/CDQ2W

(In the case of without auto switches, A, B and P dimensions will be only changed. Refer to the dimension table.)

## Dimensions: ø32 to ø50/With Auto Switch

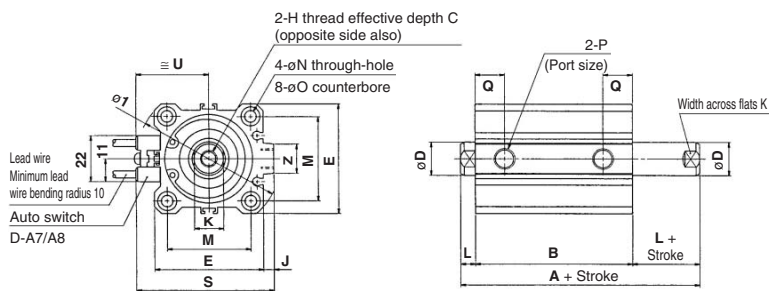
### Basic style (Through-hole): CQ2WB/CDQ2WB

#### Both ends tapped style: CQ2WA

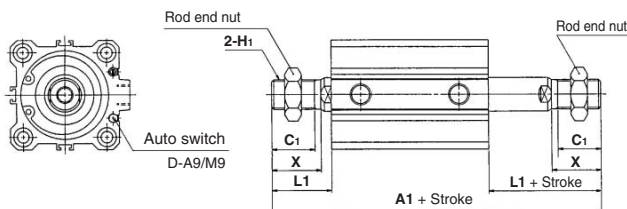


#### Both Ends Tapped Style

Bore size (mm)	O <sub>1</sub>	R
32	M6 x 1.0	10
40	M6 x 1.0	10
50	M8 x 1.25	14



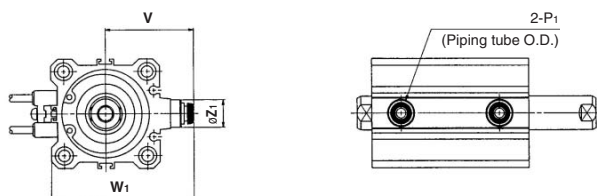
#### Rod end male thread



#### Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch		
	A1			A1		
	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100
32	87.5 + Stroke	172.5	197.5	97.5 + Stroke	172.5	197.5
40	97 + Stroke	182	207	107 + Stroke	182	207
50	107.5 + Stroke	192.5	217.5	117.5 + Stroke	192.5	217.5

#### Built-in One-touch fittings: ø32 to ø50



Bore size (mm)	C <sub>1</sub>	H <sub>1</sub>	L <sub>1</sub>	X
32	20.5	M14 x 1.5	28.5	23.5
40	20.5	M14 x 1.5	28.5	23.5
50	26	M18 x 1.5	33.5	28.5

Auto switch shown above is D-A73 type and D-A80 type. For the auto switch mounting position and its mounting height, refer to page 7-6-22.

#### Built-in One-touch Fittings

Bore size (mm)	Without auto switch		With auto switch		Z <sub>1</sub>	P <sub>1</sub>
	V	W <sub>1</sub>	V	W <sub>1</sub>		
32	38	60.5	36.5	59	13	6
40	42	68	40.5	66.5	13	6
50	50	82	50	82	16	8

#### Basic Style

Bore size (mm)	Without auto switch								With auto switch						
	A			B			P		A			B			P
	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	5 <sup>st</sup>	10 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	5 to 100 <sup>st</sup>
32	44.5 + Stroke	129.5	154.5	30.5 + Stroke	115.5	140.5	M5 x 0.8	Rc 1/8	54.5 + Stroke	129.5	154.5	40.5 + Stroke	115.5	140.5	Rc 1/8
40	54 + Stroke	139	164	40 + Stroke	125	150	Rc 1/8	Rc 1/8	64 + Stroke	139	164	50 + Stroke	125	150	Rc 1/8
50	56.5 + Stroke	141.5	166.5	40.5 + Stroke	125.5	150.5	Rc 1/4	Rc 1/4	66.5 + Stroke	141.5	166.5	50.5 + Stroke	125.5	150.5	Rc 1/4

Bore size (mm)	C	D	E	H	I	J	K	L	M	N	O	Q	S	U	Z
32	13	16	45	M8 x 1.25	60	4.5	14	7	34	5.5	9 depth 7	12.5	58.5	31.5	14
40	13	16	52	M8 x 1.25	69	5	14	7	40	5.5	9 depth 7	14	66	35	14
50	15	20	64	M10 x 1.5	86	7	17	8	50	6.6	11 depth 8	14	80	41	19

Note) External dimensions with rubber bumper are same as standard type as shown above.

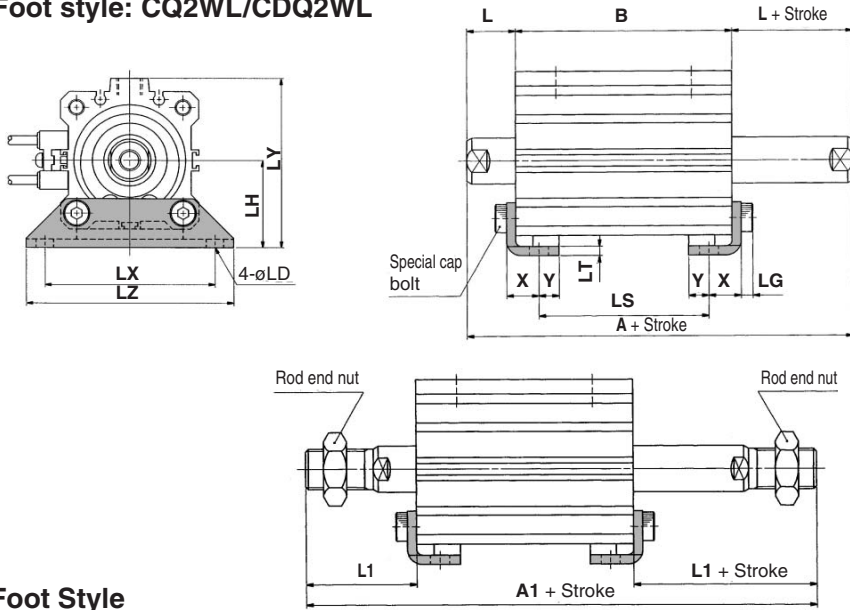
\* For details about the rod end nut and accessory brackets, refer to page 7-6-20.

Note) When obtaining the full length dimension of 50 stroke or less, it requires to add the stroke twice.

Example) Full length dimension = A + Stroke  
= (ø + Stroke) + Stroke

# Compact Cylinder: Standard Type Double Acting, Double Rod Series CQ2W/CDQ2W

## Foot style: CQ2WL/CDQ2WL



### Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch			L1
	A1			A1			
	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	
32	107.5 + Stroke	192.5	217.5	117.5 + Stroke	192.5	217.5	38.5
40	117 + Stroke	202	227	127 + Stroke	202	227	38.5
50	127.5 + Stroke	212.5	237.5	137.5 + Stroke	212.5	237.5	43.5

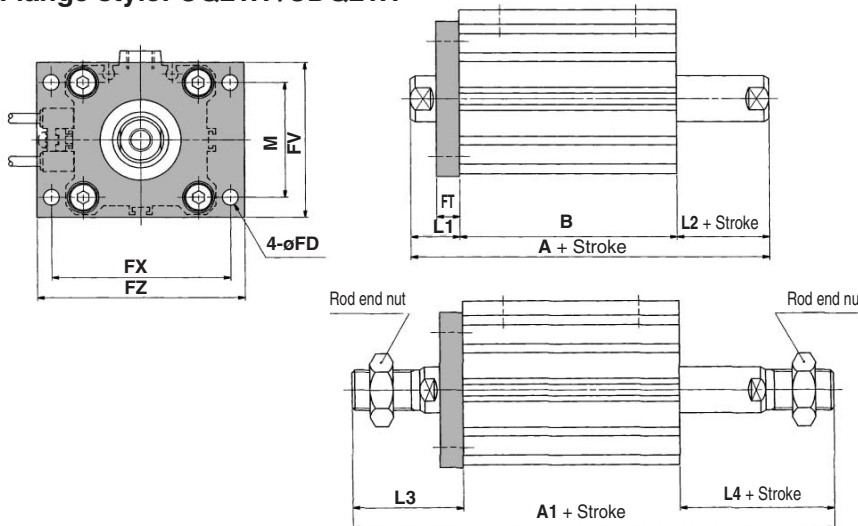
## Foot Style

Bore size (mm)	Stroke range (mm)	Without auto switch									With auto switch								
		A			B			LS			A			B			LS		
		50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100
32	5 to 50, 75, 100	64.5 + Stroke	149.5	174.5	30.5 + Stroke	115.5	140.5	14.5 + Stroke	99.5	124.5	74.5 + Stroke	149.5	174.5	40.5 + Stroke	115.5	140.5	24.5 + Stroke	99.5	124.5
40	5 to 50, 75, 100	74 + Stroke	159	184	40 + Stroke	125	150	24 + Stroke	109	134	84 + Stroke	159	184	50 + Stroke	125	150	34 + Stroke	109	134
50	10 to 50, 75, 100	76.5 + Stroke	161.5	186.5	40.5 + Stroke	125.5	150.5	17.5 + Stroke	102.5	127.5	86.5 + Stroke	161.5	186.5	50.5 + Stroke	125.5	150.5	27.5 + Stroke	102.5	127.5

Foot bracket material: Carbon steel

Bore size (mm)	L	LD	LG	LH	LT	LX	LY	LZ	X	Y
32	17	6.6	4	30	3.2	57	57	71	11.2	5.8
40	17	6.6	4	33	3.2	64	64	78	11.2	7
50	18	9	5	39	3.2	79	78	95	14.7	8

## Flange style: CQ2WF/CDQ2WF



### Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch			L3	L4
	A1			A1				
	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100		
32	97.5 + Stroke	182.5	207.5	107.5 + Stroke	182.5	207.5	38.5	28.5
40	107 + Stroke	202.5	217	117 + Stroke	192	217	38.5	28.5
50	117.5 + Stroke	204	227.5	127.5 + Stroke	202.5	227.5	43.5	33.5

## Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch									With auto switch									FD	FT	FV	FX	FZ	L1	L2	M
		A			B			A			B																
		50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100														
32	5 to 50, 75, 100	54.5 + Stroke	139.5	164.5	30.5 + Stroke	115.5	140.5	64.5 + Stroke	139.5	164.5	40.5 + Stroke	115.5	140.5	5.5	8	48	56	65	17	7	34						
40	5 to 50, 75, 100	64 + Stroke	149	174	40 + Stroke	125	150	74 + Stroke	149	174	50 + Stroke	125	150	5.5	8	54	62	72	17	7	40						
50	10 to 50, 75, 100	66.5 + Stroke	151.5	176.5	40.5 + Stroke	125.5	150.5	76.5 + Stroke	151.5	176.5	50.5 + Stroke	125.5	150.5	6.6	9	67	76	89	18	8	50						

Flange bracket material: Carbon steel

Note) When obtaining the full length dimension of 50 stroke or less, it requires to add the stroke twice.  
Example) Full length dimension = A + Stroke = (● + Stroke) + Stroke

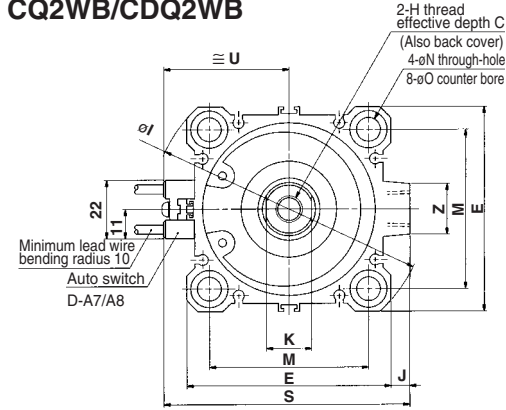
CUJ  
CU  
CQS  
CQM  
**CQ2**  
RQ  
MU  
D-  
-X  
20-  
Data

# Series CQ2W/CDQ2W

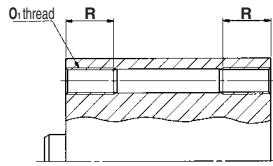
(In the case of without auto switches, A and B dimensions will be only changed. Refer to the dimension table.)

## Dimensions: $\phi 63$ to $\phi 100$ /With Auto Switch

### Basic style (Through-hole): CQ2WB/CDQ2WB

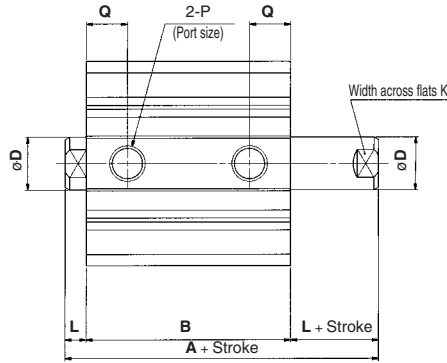


### Both ends tapped style: CQ2WA/CDQ2WA

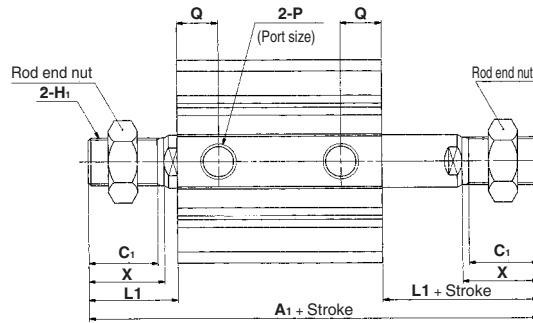
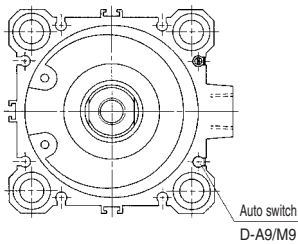


### Both Ends Tapped Style

Bore size (mm)	O1	R
63	M10 x 1.5	18
80	M12 x 1.75	22
100	M12 x 1.75	22



### Rod end male thread

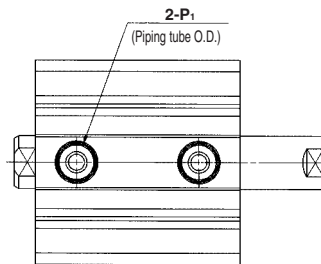
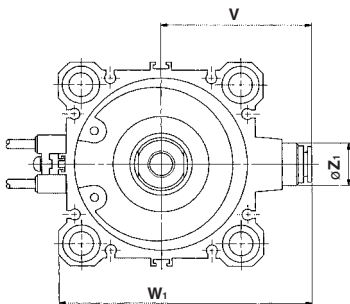


### Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch		
	A1			A1		
	50 or less	55 to 75	80 to 100	50 or less	55 to 75	80 to 100
63	109 + Stroke	194	219	119 + Stroke	194	219
80	138 + Stroke	223	248	148 + Stroke	223	248
100	147.5 + Stroke	232.5	257.5	157.5 + Stroke	232.5	257.5

Bore size (mm)	C1	H1	L1	X
63	26	M18 x 1.5	33.5	28.5
80	32.5	M22 x 1.5	43.5	35.5
100	32.5	M26 x 1.5	43.5	35.5

### Built-in One-touch fittings



### Built-in One-touch Fittings

Bore size (mm)	Z1	P1	V	W1
63	16	8	56.5	95

\* In the case of built-in One-touch fitting, the 5 mm stroke with  $\phi 32$  bore is the same external dimensions as 10 mm stroke.

Auto switch shown above is D-A73 type and D-A80 type. For the auto switch mounting position and its mounting height, refer to page 7-6-22.

### Basic Style

Bore size (mm)	Stroke range (mm)	Without auto switch						With auto switch					
		A			B			A			B		
		50 or less	55 to 75	80 to 100	50 or less	55 to 75	80 to 100	50 or less	55 to 75	80 to 100	50 or less	55 to 75	80 to 100
63	10 to 50, 75, 100	58 + Stroke	143	168	42 + Stroke	127	152	68 + Stroke	143	168	52 + Stroke	127	152
80	10 to 50, 75, 100	71 + Stroke	156	181	51 + Stroke	136	161	81 + Stroke	156	181	61 + Stroke	136	161
100	10 to 50, 75, 100	84.5 + Stroke	169.5	194.5	60.5 + Stroke	145.5	170.5	94.5 + Stroke	169.5	194.5	70.5 + Stroke	145.5	170.5

Bore size (mm)	C	D	E	H	I	J	K	L	M	N	O	P	Q	S	U	Z
63	15	20	77	M10 x 1.5	103	7	17	8	60	9	14 depth 10.5	Rc 1/4	15.5	93	47.5	19
80	21	25	98	M16 x 2.0	132	6	22	10	77	11	17.5 depth 13.5	Rc 3/8	18	112.5	57.5	26
100	27	30	117	M20 x 2.5	156	6.5	27	12	94	11	17.5 depth 13.5	Rc 3/8	22	132.5	67.5	26

Note 1) External dimensions with rubber bumper are same as standard type as shown above.

\* For details about the rod end nut and accessory brackets, refer to page 7-6-20.

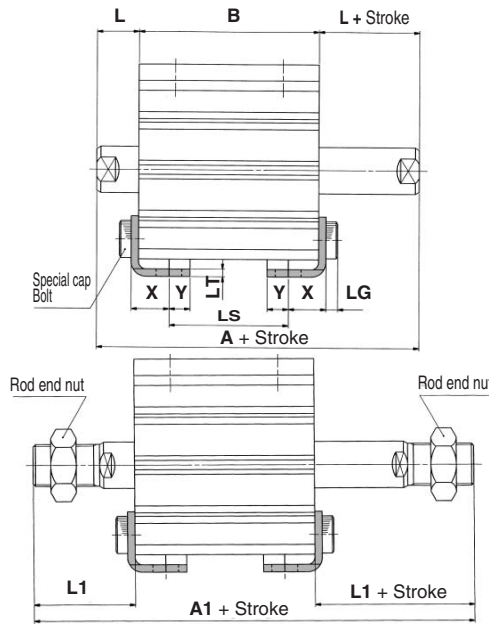
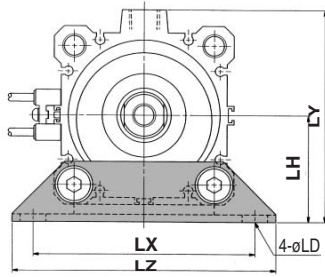
Note 2) When obtaining the full length dimension of 50 stroke or less, it requires to add the stroke twice.

Example) Full length dimension = A + Stroke = (●● + Stroke) + Stroke



# Compact Cylinder: Standard Type Double Acting, Double Rod Series **CQ2W/CDQ2W**

## Foot style: CQ2W/CDQ2WL



### Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch			L1
	A1			A1			
	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	
63	129 + Stroke	214	239	139 + Stroke	214	239	43.5
80	158 + Stroke	243	268	168 + Stroke	243	268	53.5
100	167.5 + Stroke	252.5	277	177.5 + Stroke	252.5	277.5	53.5

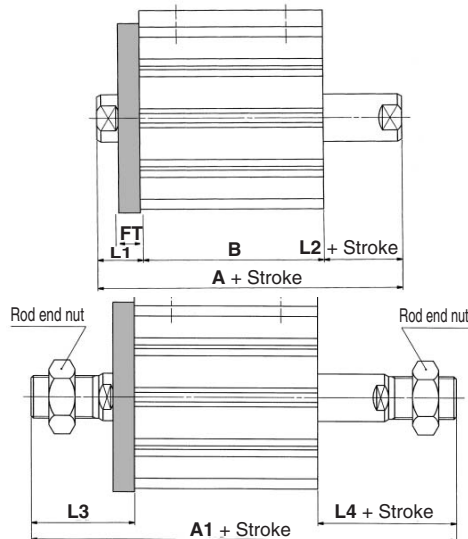
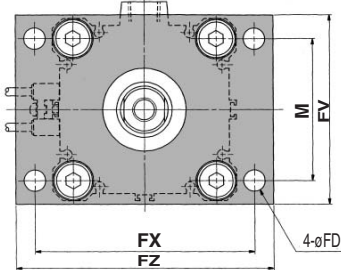
## Foot Style

Bore size (mm)	Stroke range (mm)	Without auto switch									With auto switch								
		A			B			LS			A			B			LS		
		50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100
63	5 to 50, 75, 100	78 + Stroke	163	188	42 + Stroke	127	152	16 + Stroke	101	126	88 + Stroke	163	188	52 + Stroke	127	152	26 + Stroke	101	126
80	5 to 50, 75, 100	91 + Stroke	176	201	51 + Stroke	136	161	21 + Stroke	106	131	101 + Stroke	176	201	61 + Stroke	136	161	31 + Stroke	106	131
100	10 to 50, 75, 100	104.5 + Stroke	189.5	214.5	60.5 + Stroke	145.5	170.5	26.5 + Stroke	111.5	136.5	114.5 + Stroke	189.5	214.5	70.5 + Stroke	145.5	170.5	36.5 + Stroke	111.5	136.5

Foot bracket material: Carbon steel

Bore size (mm)	L	LD	LG	LH	LT	LX	LY	LZ	X	Y
63	18	11	5	46	3.2	95	91.5	113	16.2	9
80	20	13	7	59	4.5	118	114	140	19.5	11
100	22	13	7	71	6	137	136	162	23	12.5

## Flange style: CQ2WF/CDQ2WF



### Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch			L3	L4
	A1			A1				
	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100		
63	119 + Stroke	204	229	129 + Stroke	204	229	43.5	33.5
80	148 + Stroke	233	258	158 + Stroke	233	258	53.5	43.5
100	157.5 + Stroke	242.5	267.5	167.5 + Stroke	242.5	267.5	53.5	43.5

## Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch									With auto switch									FD	FT	FV	FX	FZ	L1	L2	M
		A			B			A			B																
		50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100	50 <sup>st</sup> or less	55 to 75	80 to 100														
32	10 to 50, 75, 100	68 + Stroke	153	178	42 + Stroke	127	152	78 + Stroke	153	178	52 + Stroke	127	152	9	9	80	92	108	18	8	60						
40	10 to 50, 75, 100	81 + Stroke	166	191	51 + Stroke	136	161	91 + Stroke	166	191	61 + Stroke	136	161	11	11	99	116	134	20	10	77						
50	10 to 50, 75, 100	94.5 + Stroke	179.5	204.5	60.5 + Stroke	145.5	170.5	104.5 + Stroke	179.5	204.5	70.5 + Stroke	145.5	170.5	11	11	117	136	154	22	12	94						

Flange bracket material: Carbon steel

Note) When obtaining the full length dimension of 50 stroke or less, it requires to add the stroke twice.  
Example) Full length dimension = A + Stroke = (● + Stroke) + Stroke

CUJ

CU

CQS

CQM

**CQ2**

RQ

MU

D-

-X

20-

Data